The Procedures for Documenting Organizational Knowledge and Experiences: A Scoping Review

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Abstract

Background: The present study was motivated by issues with earlier studies on documenting knowledge and experiences. This scoping review investigates and maps the procedures for documenting organizational knowledge and experiences. Methods: Following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) extension for Scoping Reviews (PRISMA-ScR) guidelines, a scoping review was conducted. Data were obtained by searching PubMed, Web of Science, Scopus, ProQuest, Embase, and Emerald Insight databases and Persian databases, such as Magiran, Noormags, and Ensani. The selected terms were searched using the Boolean AND/OR operators, phrases, parentheses, and truncations in the title, abstract, keywords, and text word fields. The inclusion criteria were resources relevant to the research question, studies in English and Persian, original research articles, and resources published between 2011 and 2022. Finally, 8 related papers were selected as the research population after screening records. Results: The review of the selected studies indicates that there have been different steps for documenting knowledge and experiences according to the subject's scope and the goals of the studies. The included articles revealed numerous steps for documentation—including planning, acquisition, registration, evaluation, submission, maintenance, publication, application, payment, and compensation. Conclusion: Although a systematic mechanism for documenting knowledge and experience is essential, many processes and phases are offered for documentation. Therefore, a complete review that synthesizes and integrates past study findings must still be included. Several shortcomings in past research on documenting knowledge and expertise prompted the present study. The results of the present study can be of great use to managers and employees of various organizations in topics such as the creation of standards for documenting knowledge and experiences, organizational-structural planning in this field, and training on different documentation methods.

Keywords: Knowledge management, Documenting Knowledge, Documenting Experience, Procedures

Introduction

Knowledge is an invaluable asset for both individuals and organizations. Knowledge can be divided into explicit and tacit categories (1). Explicit knowledge is frequently maintained in databases, documents, and other forms of

What is “already known” in this topic:
The documentation stage is widely recognized as a critical component of knowledge management. The successful execution of this process requires the adoption of a coherent and all-encompassing viewpoint, utilizing systematic procedures, and adhering to suitable organization. A diverse range of phases are available to document knowledge and experiences.

What this article adds:
The present scoping review aims to summarize and incorporate previous research findings. This study additionally outlines the procedures for documenting organizational knowledge and experiences.
formal documentation, and tacit knowledge is typically found in the minds of organization members and stakeholders (2-4). The former is structured, codified knowledge, whereas the latter is intuitive, difficult-to-define knowledge based on personal experiences (2, 3, 5), which makes it hard to fully capture, codify, and turn them into explicit knowledge (5-7). Within the organizational domain, workplace experience is a type of tacit knowledge acquired during years of practice in forms of know-hows, unique skills, tips, hands-on experience, etcetera, that pertains to previous actions and active participation in activities and events. One of the most notable distinctions between humans and other organisms is their capacity to acquire knowledge and adapt behavior based on past experiences (8).

Gaining knowledge from elites is fundamental and indispensable to all knowledge management initiatives (9). The imperative to disseminate this knowledge and experiences to others is unquestionable. Documenting people’s lessons learned and experiences is a reliable acquisition and dissemination strategy (10). While various definitions have been proposed for documentation of knowledge and experience (11), the unifying aspect of all documentation concepts is the purposeful recording of human knowledge and experience. Generally, documentation is the process of recording, acquiring, organizing, editing, categorizing, and storing information. It is a collection of concepts that indicate purposeful, accurate, and regular activity, and all rely on the preservation of information (12).

The process of knowledge documentation aids knowledge acquisition from experts. The knowledge documentation stage is the most crucial part of the knowledge management process. This means that if the knowledge and experiences of an organization are not documented, the subsequent stages of the process will be unsuccessful (13). The documentation of experience is one of the tools that enables organizations to improve appropriate actions and policies when confronted with similar challenges and difficulties (14). This process necessitates adopting a consistent and comprehensive perspective, employing methodical mechanisms, and adhering to appropriate systemization and structure (10).

In recent years, research efforts have revealed that some studies have tried to propose conceptual frameworks (15-18), systems (19), methods (20-22), and theories (23) for the documentation of knowledge, experience, process, and intellectual property rights. In contrast, others explored the documentation of the organizational knowledge condition from the managers’ (13) and experts’ (23) perspectives in different organizations. Moreover, some studies explored factors affecting documenting knowledge and experiences (24-27). Although a systematic mechanism for documenting knowledge and experience is essential (10), many procedures and phases are offered for documentation. Therefore, a complete review that synthesizes and integrates past study findings must still be included. Therefore, this scoping review investigates and maps the procedures for documenting organizational knowledge and experiences.

Methods
This study used a scoping review methodology to retrieve the relevant research studies. Data were obtained by searching PubMed, Web of Science, Scopus, ProQuest, Embase, and the Emerald Insight databases and Persian databases, such as Magiran, Noormags, and Ensani.

The retrieved papers were reviewed for relevance and duplication based on the eligibility requirements. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) extension for Scoping Reviews (PRISMA-ScR) guidelines were utilized to report the searching of the articles, study selection, data extraction, and for reporting the results (Figure 1) (28).

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**Figure 1. PRISMA flowchart**

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Eligibility Criteria

The inclusion criteria were as follows: (1) Studies investigating knowledge and experience documentation processes; (2) published in English and Persian; (3) original research articles; and (4) they were published between 2011 and 2022. The exclusion criteria were as follows: (1) articles whose full-text were unavailable; (2) article types other than original articles, including reviews, working papers, commentaries, editorials, books, dissertations, case studies, and conference papers.

Literature Search

A literature search was performed to identify relevant research articles based on the inclusion criteria. The selected terms were searched using the Boolean AND/OR operators, phrases, parentheses, truncations and in the title, abstract, keywords, and text word fields. The search was conducted on June 11, 2023. The syntax utilized to perform an exhaustive search on the subject matter and obtain all pertinent studies is outlined in Table 1.

Study Selection

Bibliographic data of all retrieved articles were entered into EndNote software Version x21. Next, duplicate articles were removed using the software. Then, the irrelevant papers were eliminated after screening titles and abstracts. In addition, the other related articles were added through a manual search and filtering references of associated articles. In the subsequent stage, researchers read the full text of relevant papers and excluded irrelevant studies.

Data Analysis

The researchers employed the thematic analysis method to extract the relevant data from the included articles. In this method, each study was treated as a single unit of analysis. After examining the articles' content, the researcher categorized items with a similar theme, meaning, or hierarchical relationship.

Results

Eight related papers were selected as the research population after searching databases and applying the inclusion and exclusion criteria. The bibliographic information of the final studies is shown in Table 2.

The review of the selected studies indicates that there have been different steps for documenting knowledge and experiences according to the subject's scope and the goals of the studies (Table 3).

The main phases of documenting, as revealed in the review, involve acquiring, registering, evaluating, sending, and publishing experience (29-31). Other steps, such as organizing a documentation team, receiving feedback, creating a database, and awarding incentives, are further documentation stages (29, 30, 32). Some studies have also observed some stages in the documentation, such as coding, applying, and updating (13, 33-35).

The significance of the pre-implementation or preliminary stage in the documentation process is underscored in various studies (29). This stage involves planning, recognizing the current situation (32, 35), forming a knowledgeable documentation team, and emphasizing the importance of experiences in acquiring knowledge from experience.
The Procedures of Documenting Organizational Knowledge and Experiences

Table 2. The bibliographic information of selected studies

<table>
<thead>
<tr>
<th>Row</th>
<th>First Author</th>
<th>Title</th>
<th>Journal</th>
<th>Year</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Zamaheni, M</td>
<td>A Framework for the Transformation of Tacit Knowledge into Explicit Knowledge in Industries &quot;Case Study of Pars Automotive Industry&quot;</td>
<td>Journal of Industrial Management Studies</td>
<td>2020</td>
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<td>2</td>
<td>Sanz, S</td>
<td>Optimization of knowledge transfer in ITER</td>
<td>Fusion Engineering and Design</td>
<td>2019</td>
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<td>3</td>
<td>Khoshoue, M</td>
<td>Developing an Integrated Process for Organizational Experience Documentation: Experience Management Approach</td>
<td>Management and Development Process</td>
<td>2018</td>
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<td>4</td>
<td>Shafiee, S</td>
<td>Knowledge Management in University Libraries of Iran: Documentation and its Mechanisms</td>
<td>Library and Information Science Research</td>
<td>2017</td>
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<td>5</td>
<td>Javadpour, A</td>
<td>Motivation and barriers to participation in virtual knowledge-sharing communities of practice</td>
<td>Management Science Letters</td>
<td>2017</td>
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<td>6</td>
<td>Zamani, A</td>
<td>Qualitative analysis of the principles of documenting organizational experiences of university presidents: a step towards value creation of administrative experience</td>
<td>Research in educational systems</td>
<td>2017</td>
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<td>7</td>
<td>Haddadpour, A</td>
<td>Process documentation: a model for knowledge management in organizations</td>
<td>Materia socio-medica</td>
<td>2015</td>
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<td>8</td>
<td>Khodamoradi, S</td>
<td>Providing a local model of documenting experiences in the police force</td>
<td>Specialized scientific quarterly of Bushehr Police Department</td>
<td>2014</td>
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Table 3. The process for documenting knowledge and experience

<table>
<thead>
<tr>
<th>Row</th>
<th>First Author (Year)</th>
<th>Planning</th>
<th>Creating a documentation team</th>
<th>Acquisition</th>
<th>Registration</th>
<th>Initial evaluation</th>
<th>Sending</th>
<th>Feedback</th>
<th>Codification</th>
<th>Storage</th>
<th>Dissemination and promotion</th>
<th>Employment</th>
<th>Updating</th>
<th>Rewarding</th>
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</thead>
<tbody>
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<td>1</td>
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<td>✓</td>
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<td>2</td>
<td>Sanz, S (2019)</td>
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<td>3</td>
<td>Khoshoue, M (2018)</td>
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<td>Haddadpour, A (2015)</td>
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<td>8</td>
<td>Khodamoradi, S (2014)</td>
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The current review showed that some studies mentioned the acquisition and registration stages (30, 34), while others only noted the registration (16, 29) or the acquisition (13, 33, 35) in the documentation process. Receiving feedback is one of the most important parts of receiving information from people, which can determine the accuracy of the documented experiences. However, this step is often forgotten. By providing feedback to
individuals, the significance of documenting becomes evident, humans' resistance diminishes, and they attempt to participate more in this topic. The secretariat or documentation group can also use feedback to evaluate the impact of the documentation system at the organizational level and standardize individuals' experiences (29, 30, 32). Further, while some studies have given an essential role to feedback (29, 30, 32), a more significant number of studies have yet to report on it (13, 31, 33-35).

In the next documentation stage, knowledge and experiences are coded (13, 29, 30, 32, 34) and stored (29, 30, 32, 33). Some findings indicate that storing knowledge and experiences in the documentation process with information technology, such as creating an electronic database, improves operational precision and speed (29, 30). Establishing an electronic repository is the most effective approach to preserving and sustaining experiences in optimal circumstances. However, when the required resources for such an endeavor still need to be improved, this objective can still be attained by employing less advanced technology. In this context, various strategies are implemented to preserve and maintain information. These methods encompass the following aspects in comprehensive detail: (1) creating a database of experiences—in the sense that, at first, a simple and advanced software system is designed to store experiences; (2) determining and defining keywords of documented experiences—the publisher of experiences must determine and define keywords and criteria to provide users or audiences with the ability to search for experiences; (3) coding information—a software expert must codify all keywords and change the information into a language to store it in the database; and (4) entering data into the experience bank—an expert enters all data. Furthermore, the system recognizes all communications automatically and generates any reports requested by users or audiences (30). In other studies, creating a database to preserve knowledge and experiences has been prominently stressed during documentation (29, 32, 33).

A few studies have mentioned information coding before designing a database (13, 29, 30, 32, 34). For example, the software group and the documentation system committee assign standard codes to various experiences. The coded experiences are then prepared for entry into the knowledge-based system (29). In a similar perspective, to enter information into the system, a software expert must code all keywords and other information to find the information that can be stored in the database (30). Coding is crucial for documenting knowledge in practical and usable forms, representing it graphically in patterns and maps. The more the knowledge coding process is based on logical and scientific frameworks, the more knowledge papers will be used (34).

The next step in experience documentation involves managers deciding and planning how to use and share the stored experiences by employees (13, 16, 29, 30, 32-35). The objective of knowledge application is to utilize documented knowledge by employees, enabling them to reference and employ the necessary knowledge before engaging in new programs and activities. Hence, a primary objective of documentation is the utilization of knowledge in executing work responsibilities and in organizational and administrative decision-making (34). After dissemination and sharing the documented knowledge and experiences, updating them for operational usage is also required (13, 30, 33, 34).

In some studies, rewarding has also been considered an important stage in experience documentation (29, 30). Knowledge sharing and transferring without incentives is unachievable. Therefore, the organization's incentive structure should include awards for people in this field (37), and material and spiritual rewards should be provided to those whose experiences earned the highest scores (29). After selecting the type and amount of the reward, the organization's management allocates it to both the owners of the experience for sharing such valuable experiences and the users who applied those shared experiences (30).

Discussion

In the knowledge management approach, knowledge is a product of people's information, experience, skills, and attitude in a specific time and situation (38). Documenting experiences is also a type of knowledge management process. It causes the implicit knowledge of people to transform into explicit knowledge and, finally, helps society to gain new knowledge by exchanging experiences (39, 40). In line with documented experiences in producing, sharing, and applying knowledge, documentation is considered a link between different stages of knowledge management (41). As a result, processes in knowledge management refer to the gathering and organizing organizational knowledge and the exploitation and preservation of knowledge assets. Documenting experience plays a significant role in the success of organizations. This achievement is attained when the experience is documented following the steps known as the process (30).

This paper provided an overview of previous literature on procedures for documenting organizational knowledge and experience. The included articles revealed numerous steps for documentation—including planning, acquisition, registration, evaluation, submission, maintenance, publication, application, payment, and compensation. These studies mostly used and supported knowledge management processes. Recording organizational knowledge makes other knowledge management actions possible (34).

If the organization's management fully understands the relevance of experience and realizes the need to document it, preparations must be made before implementing the documentation plan (30). According to some studies, knowledge extraction and recording is the most crucial step in the cycle of knowledge documentation. Most selected studies had two primary and initial stages: acquiring and registering knowledge and experience. In the knowledge management literature, knowledge acquisition is one of the main processes in knowledge-oriented organizations. It is an essential strategy for utilizing the organization's knowledge assets (42). According to Hoa, knowledge acquisition includes extraction, collecting,
The Procedures of Documenting Organizational Knowledge and Experiences

analysis, modeling, and validation (43). Dalkir also states that knowledge acquisition is extracting, transforming, and transferring expertise from a knowledge source (44). The most fundamental part of acquiring knowledge is encountering and dealing with experts. Acquiring knowledge is the process of interacting with professionals, during which the experts' experiences are explained, and their tacit knowledge becomes explicit knowledge (36). Therefore, knowledge management literature has considered acquiring knowledge to be the creation of methods and tools that can efficiently obtain and verify the experts' knowledge (45). In the knowledge management cycle, knowledge recording entails documenting the organization's existing knowledge. This category includes storing organizational knowledge in a database and documenting successful and unsuccessful experiences (46).

Evaluation is the next phase in documenting knowledge and experience, following registration and acquiring knowledge. In this phase, the selected knowledge is appraised based on accuracy, value, and relevance, and the most pertinent is chosen (34). Maintaining and preserving is another fundamental step in documenting knowledge and experience, which facilitates the dissemination and use of documented experience (30). Maintenance and accessibility are the middle links in the documentation process's cycle. If recorded knowledge is not kept systematically and on a suitable medium, further documentation operations will not be as effective as they should be. Knowledge documents can be kept alongside descriptive, management, content grading, maintenance, and application metadata in knowledge management software or databases (34). Generally, to preserve knowledge and experiences, the database is designed and implemented, information is coded, and information is entered into the knowledge bank system (29, 30, 32-34).

Another critical step in documentation is disseminating and promoting knowledge and experiences. Knowledge is an essential organizational resource (47) and a competitive advantage (48) and must be transferred from experts to those who require it within the organization. The transmission and optimization of knowledge contribute to the organization's competitive advantage (49). Therefore, knowledge transfer is a fundamental phase in knowledge management cycles. Transferring knowledge entails making necessary knowledge accessible to all at all times in all locations (50). Knowledge transfer is how an organization disseminates information to its members, fosters learning, and generates new information or comprehension (42). Therefore, to avoid hiding experiences in a particular context, they must be conveyed rapidly and effectively to others. Ideas and experiences, in the case being shared, have a broad impact, as opposed to being in the hands of a small number of individuals. (24) The use of knowledge in completing tasks and making organizational and administrative decisions is one of the primary objectives of knowledge documentation. The knowledge management cycle will only benefit the organization if documented knowledge is used (34). All review studies have highlighted the diffusion and transfer of knowledge and experience as an essential stage in experience documentation.

On the other hand, the attitude of employees who consider their knowledge a source of power for their position in the organization often leads to hiding or hoarding knowledge and experience (51). Knowledge owners are reluctant to share knowledge and experience due to the risk of losing power. A strong incentive and reward system in the documentation system can influence people's attitudes toward documenting their knowledge and experiences and encourage them to do so. Finally, knowledge and experience can be transferred, created, shared, and converted more quickly (35). For many years, the behavioral sciences have confirmed the efficacy of rewards in creating desirable behavior. In knowledge management, organizational rewards and compensation are motivational elements for various activities, including documentation (24). The literature on knowledge management frequently highlights the need to establish a compensation and reward system for participation in documenting and sharing knowledge and experiences (52). Moreover, using financial incentives can significantly aid in establishing knowledge management and sharing experiences at the operational level (53). Based on this, in some research, documenting knowledge and experiences involving compensation is among the final phases.

Conclusion

A review of selected articles from the present study revealed that knowledge and experience documentation is a multistage process. Different approaches and phases are used to document knowledge and experiences, depending on the goals and breadth of the subject. There are different mechanisms and steps in the documentation process. The main actions in this process have been recognizing, recording, sending, evaluating, coding, maintaining, publishing, and providing experience and knowledge.

The present study provided a picture of the status of knowledge and experience documentation processes for those interested in the documentation field by reviewing the related studies. While the research presented potential benefits in terms of improved aggregation and reduction of material scattering, it also had certain limitations. For instance, the absence of exhaustive and evidence-based studies in documenting knowledge and experiences is one of the limitations of the present study. The lack of access to the full texts of a few articles also led to the exclusion of some related papers from the study.

Hence, it is recommended that other scholars do further extensive investigations in this domain, aiming to find other components by conducting an in-depth review of relevant literature. Documenting experience following scientific procedures and knowledge management is generally recommended for organizations, as the uncertainty of the documentation method is one of the most significant obstacles these organizations face concerning knowledge documentation. From a theoretical point of view, researchers are suggested to provide a rich scientific framework and model for documentation using different quantitative methods, such as structural equation modeling and factor analysis.
Acknowledgment
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Ethical Approval
The ethics committee of Iran University of Medical Sciences approved the study with the ID number IR.IUMS.REC.1399.1033. All authors demonstrate that they have adhered to the accepted ethical standards of a genuine research study and that all study is conducted with integrity, fidelity, and honesty.

Authors’ Contributions
Sh.M. and S.P. contributed to the conception and design of the study with support from L.N., Sh.A., and H.G. Material preparation, data collection, and analyses were performed by Sh.M., with help from S.P., L.N., Sh.A., and H.G. at various stages. Sh.M. and all authors wrote the first draft of the manuscript, commented on, and revised the manuscript several times.

All authors have read and approved the final manuscript and agreed to be responsible for all aspects of the paper.

Conflict of Interests
The authors declare that they have no competing interests.

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The Procedures of Documenting Organizational Knowledge and Experiences

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